

REMARKS

Applicants respectfully request that the application be reconsidered in view of the amendments and remarks that follow, and the attached Declaration Under 37 CFR 1.131, which are believed to place the application in condition for allowance.

I. Amendments to the Claims:

Claims 1-46 are in the application. Claims 14-25, 34 and 37 are amended. Claims 1-13 and 36 are cancelled. New Claims 47-53 are added. No additional claim fees are required.

Claim 14 has been amended to characterize the sound-damping composition as a pre-baked composition. Claims 15-20 are amended to correct the antecedent basis.

Claim 21 has been amended to characterize the sound-damping composition as a baked composition, prepared by forming an aqueous mixture of the pre-baked composition extruding the mixture, and baking the extruded mixture. Claim 22 is amended to correct the antecedent basis.

Claim 23 is also amended to characterize the composition as a pre-baked sound-damping composition. Claim 24 is amended to correct the antecedent basis.

Claim 25 is amended to include an initial step of providing a sound-damping composition, and to provide for extruding the composition into a plurality of spaced-apart beads. Support is found in original Claim 29.

Claim 34 is amended to provide for extruding the beads into a width of about 1 mm to 12 mm and a thickness of from about 1 mm to about 5 mm, with a spacing of less than about 2 mm between the beads. Support is from original Claim 36, now cancelled.

Claim 37 is amended to more particularly define the aqueous polymeric material as an aqueous sound-damping polymeric material.

New Claims 47-53 are added. Claim 47 provides for a pre-baked sound-damping composition as in Claim 14, wherein the low-density glass bead filler has an isostatic crush strength of at least 5500 psi. Support for the isostatic crush strength is found in the example compositions, on page 10, line 11, wherein each composition contains 2.5% by weight of Scotchlite Bubbles VS 5500 glass bead filler, available from 3M Company. Applicants attach a Declaration Under 37 CFR 1.132 from the inventor Akbar Hussaini, providing 3M Company information, which was available to the public on or before March 1, 2004, the filing date of the present application, and which states that the Scotchlite Bubbles VS 5500 glass beads have an isostatic crush strength of at least 5500 psi. Applicants contend that the isostatic crush strength properties are inherent in the disclosure of the VS 5500 glass beads, and that such information was available to the public at the time of the filing of the application, whereby no new matter has been added.

No new matter is believed to have been introduced by the above amendments. Applicants request entry of the claim amendments and of the added new claims.

II. Response:

Claims 14-46 are rejected under 35USC102(e) as anticipated by, or in the alternative, under 35USC 103(a) as obvious over LeStarge, U.S. Patent 6,872,761.

The Examiner states: "LeStarge discloses acoustic damping coatings having improved surface appearance and/or noise-suppression properties which are derived from aqueous compositions containing at least one polymer in dispersed form, at least one particulate inorganic filler, and expandable microspheres. The expandable microspheres increase in volume when the substrate coated with a layer of the aqueous composition is heated to dry the aqueous

composition, thereby providing a final coating surface that is smoother than a coating surface obtained in the absence of the expandable microspheres. The sound transmission properties of the dried coating are also enhanced by the presence of the expandable microspheres. These microspheres are considered to be beads. Therefore, an extruded composition would be "in beads" or in the form of beads."

"The polymers used in the present invention typically have glass transition temperatures in the range of from about 0 degrees C to about 90 degrees C. Preferred polymers include dispersion of a homopolymer or copolymer of a diolefin such as 1,3-butadiene, cyclobutadiene, and/or isoprene. The comonomer may preferably be selected from vinyl aromatic compounds such as, for example, styrene or alpha-methyl styrene, acrylonitrile, or other ethylenically unsaturated monomers. Acrylate polymers and copolymers, acrylic resins, such as, for example, copolymers of lower alkyl (meth)acrylates such as n-butyl acrylate with comonomers such as styrene and/or acrylonitrile are also preferred for use. Mixtures of the these polymers may be used to obtain the desired combination of properties in the final cured coating. The two polymers may both be acrylic resins having different monomer compositions, selected to provide the desired Tg characteristics."

"Inorganic fillers in particulate form are incorporated into the aqueous compositions of the present invention for the purpose of providing bulk to the dried coating, adjusting the hardness of the dried coating, improving the sound or vibration damping properties of the dried coating, controlling blistering of the dried coating, and/or modifying the flammability of the dried coating. The inorganic filler(s) may be in any suitable form such as powder, fibrous, needle-like, scale-like, spherical, plate-like and other shape known in the art and should be insoluble in water. Examples of inorganic fillers suitable for use in the invention include

calcium carbonate, silica, alumina, kaolin, clay, talc, mica diatomaceous earth, glass power or fibers, aluminum hydroxide, perlite, barium sulfate, magnesium carbonate, calcium dihydrate, rock wool, asbestos, wollastonite, zeolite, glass or ceramic microspheres and graphite (underline added by the Examiner).”

“Additionally, one or more thickeners (sometimes referred to in the art as rheology modifiers) may be employed to modify the viscosity or rheological characteristics of the aqueous coating composition so as to inhibit it from a substrate surface that is not horizontal and to permit the formation of a wet coating of the desired thickness. Any standard rheology modifiers known for this purpose in the aqueous coating art may be utilized, including, for example, carboxy methyl cellulose (including salts thereof) and other polysaccharide derivatives and organically modified clays.”

“Additional optional components of the aqueous composition of the patented invention include, but are not limited to, dispersing agents (inorganic as well as organic), viscosity improvers/modifiers, preservatives, anti-oxidants, plasticizers, pH control agents (e.g., acids, bases, buffering agents), corrosion inhibitors, fungicides, ultraviolet absorbers, antistatic agents, and the like.”

“Example 4 of the patented disclosure utilizes ACRONAL S504, n-butyl acrylate/acrylonitrile/styrene copolymer, natural graphite and wet ground mica (underline added by the Examiner).”.

“Claim 18 of the patent calls for a method of forming an acoustic or vibration damping coating on a metal substrate surface, said method comprising (a) forming a layer of the composition of claim 15 on said metal substrate surface and (b) heating said layer for a time and at a temperature effective to dry said layer and to cause said expandable microspheres to increase

in volume, said layer being sufficient to provide a thickness when dry and expanded of from about 1000 to about 5000 microns. Patentee also teaches that drying of the coating can be performed by any suitable method such as oven drying or induction heating, provided the wet coating is exposed to a temperature effective to activate expansion of the expandable microspheres. This minimum drying temperature is said to vary depending upon the characteristics of the particular expandable microspheres selected for use. However, the drying temperature may be determined by reference to the T_{start} values of the expandable microspheres. Patentee indicates that typically, the drying temperature will be in the range of from about 70 degrees C to about 200 degrees C.”

“Patentee is silent as to the density of the compositions of the patented invention, however since patentee is utilizing the same components it is probable that a density of 1.1 to 1.6 g/cc is inherent to the composition. The derivation of an appropriate density for the compositions is obvious to the ordinary practitioner in this art by modifying the weight ratios of the components. Utilization of these compositions in any conventional apparatus, such as automobiles, cell phones, and noisy kitchen fixtures and appliances, that require sound damping would be obvious to the art-skilled.”

Applicants traverse the rejection as to Claims 14-24, and Claims 37-46 in view of the Declaration Under 37 CFR 1.131 and the remarks, and request reconsideration of the rejection of Claims 25-36 in view of the amendments made thereto and the remarks that follow.

The Examiner has rejected Claims 14-22, drawn to a pre-baked sound-damping composition, as anticipated or obvious in view of the disclosure of U.S. Patent 6,872,761 to LeStarge. The Applicants present herein a Declaration under 37 CFR 1.131, that demonstrates

by facts that the inventions embodied in Claims 14-22 were conceived and reduced to practice in the U.S. by the applicants before the effective date of the LeStarge publication, this is, before April 24, 2003. Having sworn behind the LeStarge reference, Applicants request withdrawal of the rejection against Claims 14-24.

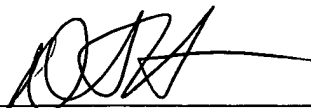
Applicants also traverse the rejection against method Claims 37-46. Independent Claim 37 provides a method including the step of extruding the sound-damping composition polymeric material onto a substrate in beads having a width of about 1-12 mm , and a thickness of about 1-3 mm, with a spacing of less than about 2 mm between the beads. Applicants call to the Examiners attention that the term “bead” or “beads” in the context of an extruded composition, describes a line of continuously applied composition. Applicants note that The American Heritage® Dictionary of the English language: Fourth Edition (2000) includes as a definition of “bead” the following: “a line of continuously applied ductile material such as a sold or caulking compound”. Applicants contend that the disclosure of LeStarge neither discloses nor suggests application of the wet composition in a plurality of beads, or lines of continuously applied material, with a narrow spacing there between. As disclosed in paragraph [0035] and illustrated in Fig. 12 of the present application, applying the composition in spaced-apart beads enables a controlled rate of drying at high surface weights of the material. The spaced-apart beads provide a large exposed surface area, which provides controlled drying rates without compromising sound transmission loss and damping properties of the composition. Applicants contend that there is no teaching in LeStarge that either discloses or suggests extruding the composition onto a substrate as spaced-apart beads or lines of material. Applicants respectfully request withdrawal of the rejection against Claims 37-46.

Likewise, Applicants have amended independent Claims 25 and 35 to provide an extruding step wherein the composition is extruded as a plurality of spaced-apart beads. The spaced-apart beads provide a large exposed surface area, which provides controlled drying rates without compromising sound transmission loss and damping properties of the composition. Applicants contend that there is no teaching in LeStarge that either discloses or suggests extruding the composition onto a substrate as spaced-apart beads or lines of material. Applicants therefore request reconsideration and withdrawal of the rejection against Claims 25-36 in view of the amendments made thereto and of the foregoing arguments.

Applicants believe it has provided a complete response to the Office Action, and requests entry of the amendments, withdrawal of the rejections, and allowance of all claims.

Respectfully submitted,

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Attachments:

- (1) Declaration Under 37 CFR 1.131
- (2) Declaration Under 37 CFR 1.132